PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Akinari TODOROKI

Application No.: New U.S. Patent Application

Filed: February 7, 2002 Docket No.: 111915

For: IMAGE SIGNAL DECODING APPARATUS

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please replace claims 4,5,7-9 and 11-13 as follows:

4. (Amended) The image signal decoding apparatus according to claim 1, wherein, each time the motion compensation process is finished for the frame data of 16 lines, said dedicated storage division reads from said frame storage division the data of predetermined 16 lines to be used for the subsequent motion compensation process.

5. (Amended) The image signal decoding apparatus according to claim 1, wherein said dedicated storage division can supply the stored frame data to the motion compensation processing division and a continuous decoding division for performing a continuous decoding process.

7. (Amended) The image signal decoding apparatus according to claim 1, wherein said motion compensation processing division has an address administration division for administering the address of the frame data stored in said dedicated storage division; and

in the case where the frame data of the address referred to by said motion compensation processing division is not stored in said dedicated storage division, said address administration division reads the frame data stored in said frame storage division to said motion compensation processing division, and said motion compensation processing division performs the motion compensation process by referring to the read frame data.

8. (Amended) The image signal decoding apparatus according to claim 1,

wherein said frame storage division has a first and a second storage divisions capable of storing the frame data of one frame respectively, and said first storage division stores processing results outputted by said motion compensation processing division, and said second storage division stores the frame data for performing the motion compensation process.

9. (Amended) The image signal decoding apparatus according to claim 1,

wherein said frame storage division stores the frame data of one frame and overwrites the processing results outputted by said motion compensation processing division to the corresponding address of the stored frame data.

11. (Amended) The image signal decoding apparatus according to claim 9,

wherein, in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division, said address administration division has a predetermined error compensation process that is defined performed.

12. (Amended) The image signal decoding apparatus according to claim 9,

wherein said main storage division stores DC (Direct Current) component data of the frame data of a forward reference frame referred to for the motion compensation process, and in the case where said motion compensation processing division needs to refer to the frame data stored in the frame storage division, said address administration division has the frame data referred to, and has the error compensation process performed by referring to said DC

component data in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division.

13. (Amended) The image signal decoding apparatus according to claim 9,

wherein said main storage division stores sub-sample data generated from the frame data of the forward reference frame referred for the motion compensation process, and

in the case where said motion compensation processing division needs to refer to the frame data stored in the frame storage division, said address administration division has the frame data referred to, and has the error compensation process performed by referring to said sub-sample data in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division.

REMARKS

Claims 1 - 13 are pending. By this Preliminary Amendment, claims 4,5,7-9 and 11-13 are amended to remove multiple dependencies. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Thomas J. Pardini
Registration No. 30,411

JAO:TJP/mlb
Attached: Appendix
Date: February 7, 2002

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

APPENDIX

Changes to Claims:

The following are marked-up versions of the amended claims:

4. (Amended) The image signal decoding apparatus according to claim 1~~any one of claims 1 to 3~~,

wherein, each time the motion compensation process is finished for the frame data of 16 lines, said dedicated storage division reads from said frame storage division the data of predetermined 16 lines to be used for the subsequent motion compensation process.

5. (Amended) The image signal decoding apparatus according to claim 1~~any one of claims 1 to 4~~,

wherein said dedicated storage division can supply the stored frame data to the motion compensation processing division and a continuous decoding division for performing a continuous decoding process.

7. (Amended) The image signal decoding apparatus according to claim 1~~any one of claims 1 to 6~~,

wherein said motion compensation processing division has an address administration division for administering the address of the frame data stored in said dedicated storage division; and

in the case where the frame data of the address referred to by said motion compensation processing division is not stored in said dedicated storage division, said address administration division reads the frame data stored in said frame storage division to said motion compensation processing division, and said motion compensation processing division performs the motion compensation process by referring to the read frame data.

8. (Amended) The image signal decoding apparatus according to claim 1~~any one of claims 1 to 7~~,

wherein said frame storage division has a first and a second storage divisions capable of storing the frame data of one frame respectively, and said first storage division stores processing results outputted by said motion compensation processing division, and said second storage division stores the frame data for performing the motion compensation process.

9. (Amended) The image signal decoding apparatus according to claim 1~~any one of claims 1 to 7~~,

wherein said frame storage division stores the frame data of one frame and overwrites the processing results outputted by said motion compensation processing division to the corresponding address of the stored frame data.

11. (Amended) The image signal decoding apparatus according to claim 9~~ or 10~~,

wherein, in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division, said address administration division has a predetermined error compensation process that is defined performed.

12. (Amended) The image signal decoding apparatus according to claim 9~~ or 10~~,

wherein said main storage division stores DC (Direct Current) component data of the frame data of a forward reference frame referred to for the motion compensation process, and in the case where said motion compensation processing division needs to refer to the frame data stored in the frame storage division, said address administration division has the frame data referred to, and has the error compensation process performed by referring to said DC component data in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division.

13. (Amended) The image signal decoding apparatus according to claim 9~~ or 10~~,

wherein said main storage division stores sub-sample data generated from the frame data of the forward reference frame referred for the motion compensation process, and

in the case where said motion compensation processing division needs to refer to the frame data stored in the frame storage division, said address administration division has the frame data referred to, and has the error compensation process performed by referring to said sub-sample data in the case where said motion compensation processing division needs to refer to the frame data not stored in the frame storage division.